

Fig. 1

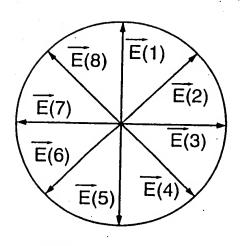


Fig. 1A

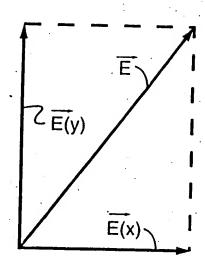


Fig. 1B

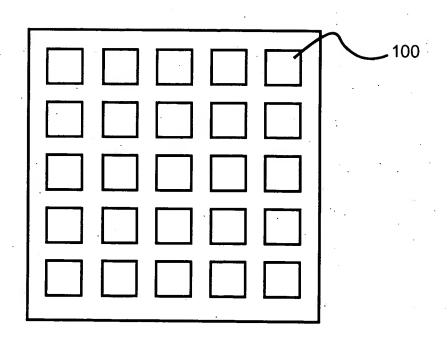
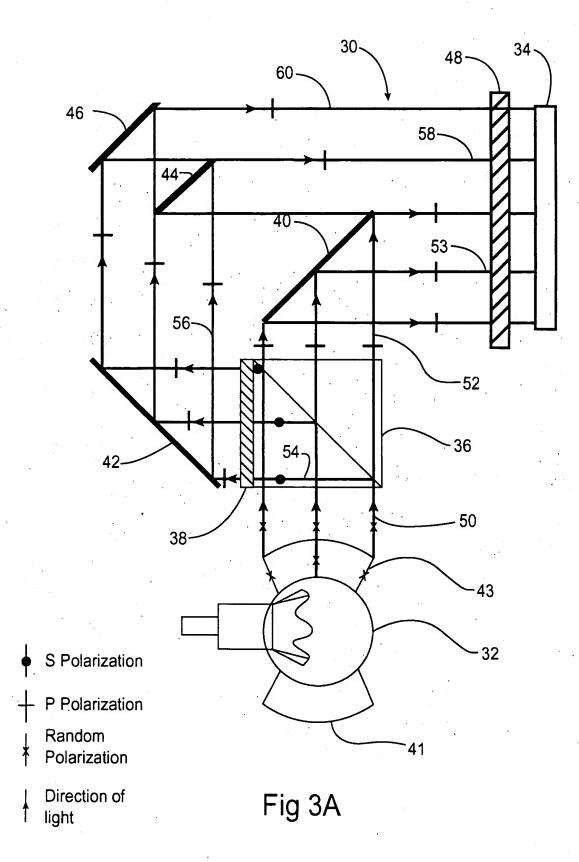
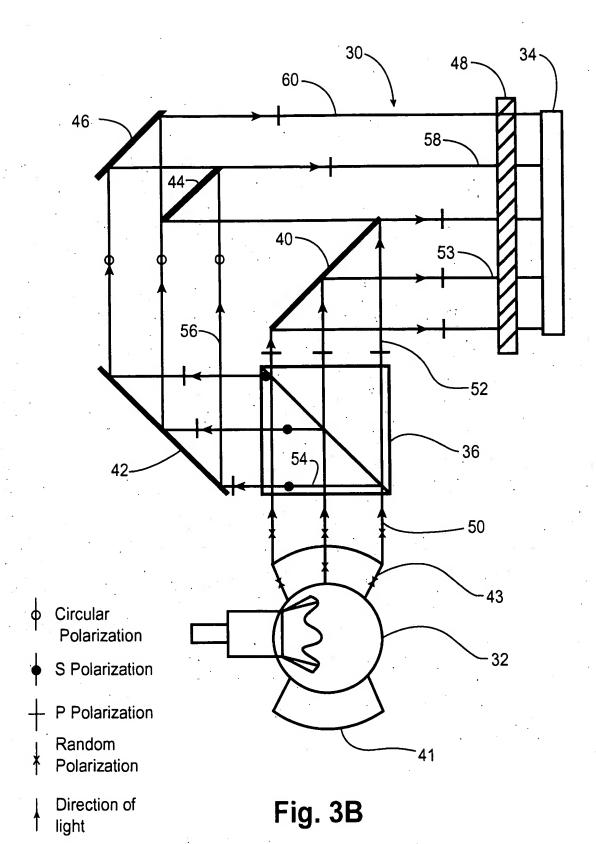


Fig. 2A

b





P

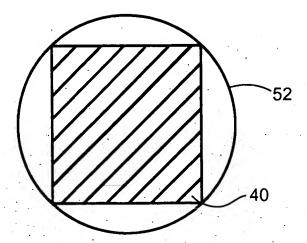
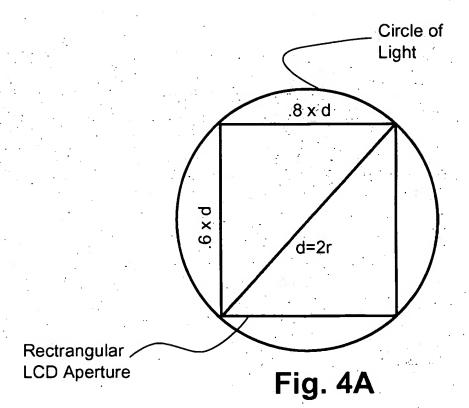


Fig. 4



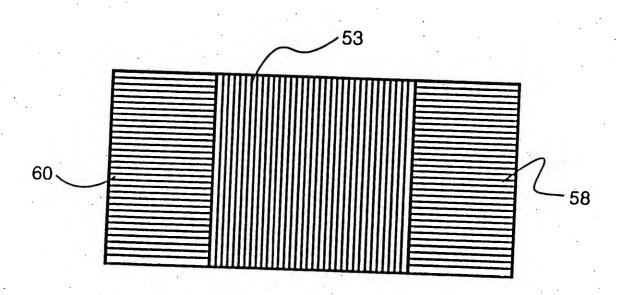
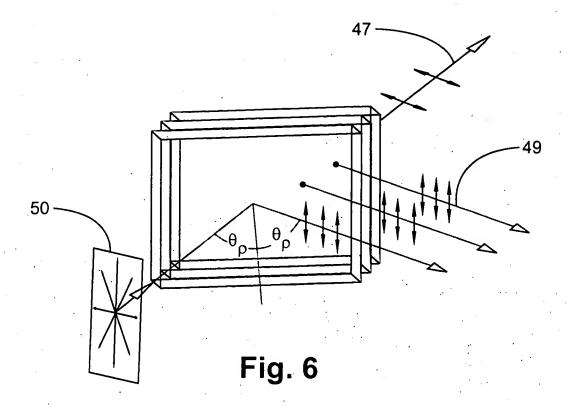


Fig. 5



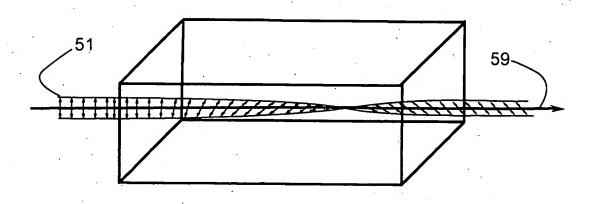


Fig. 7

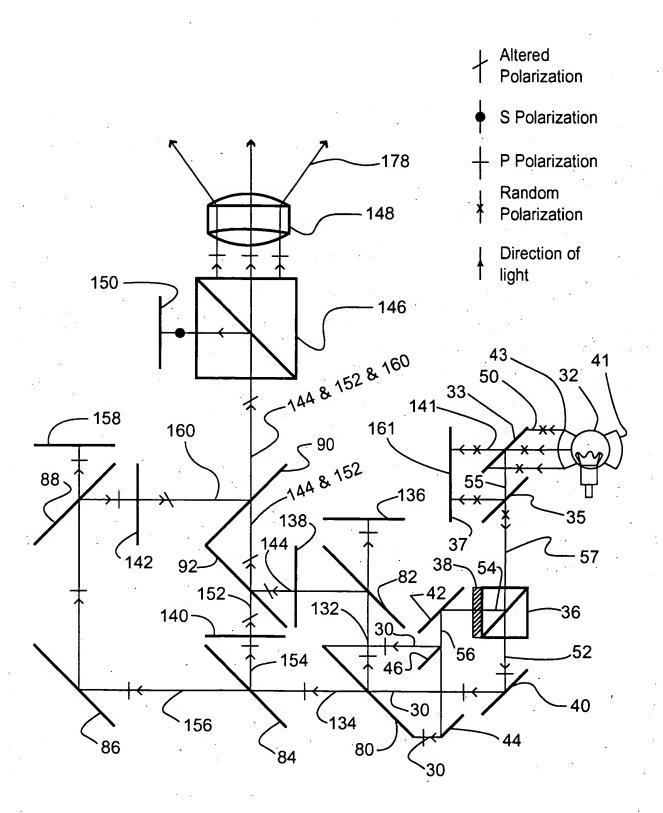
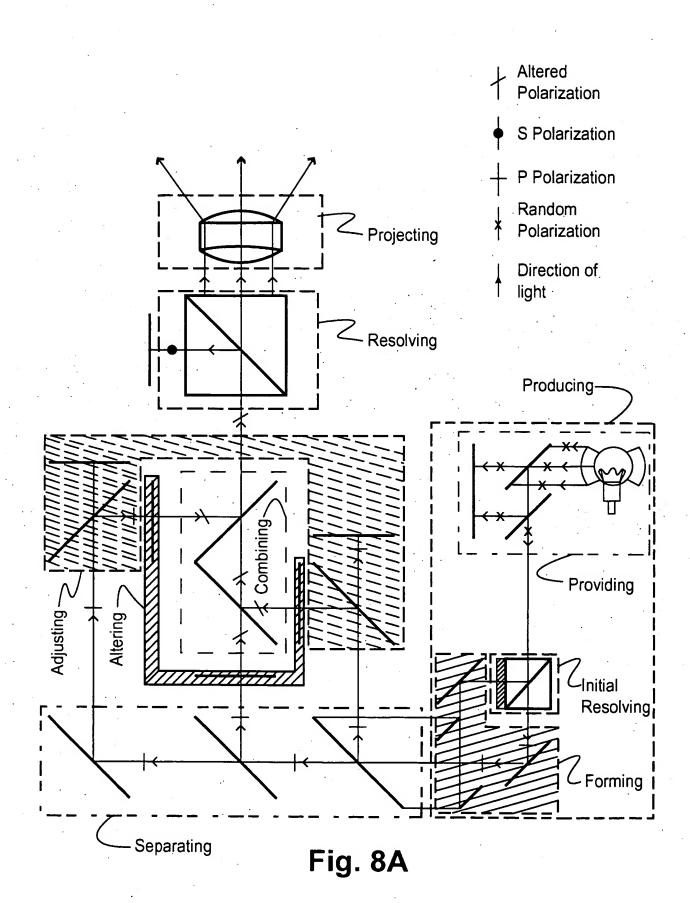


Fig. 8



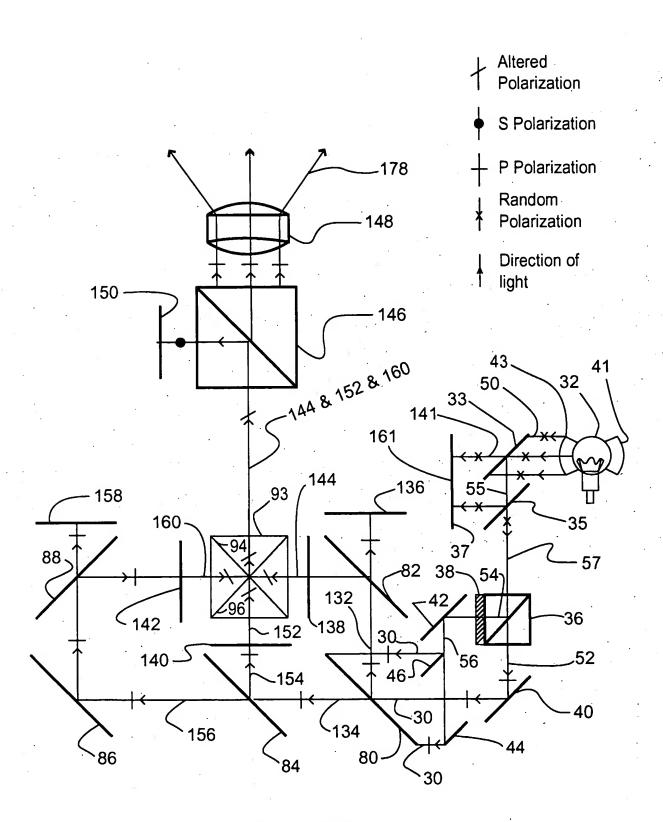
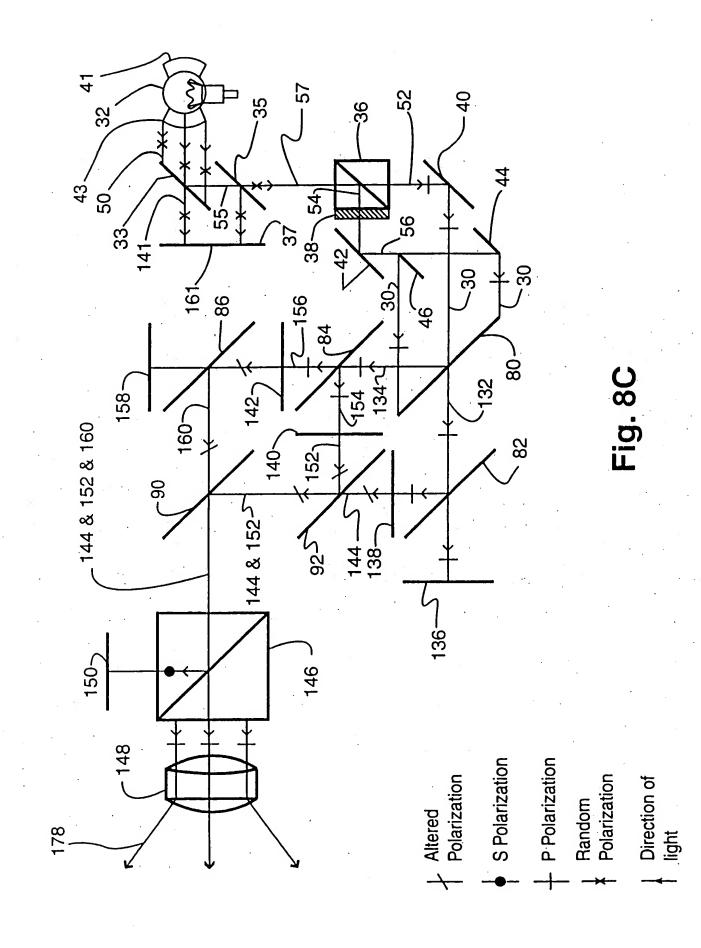
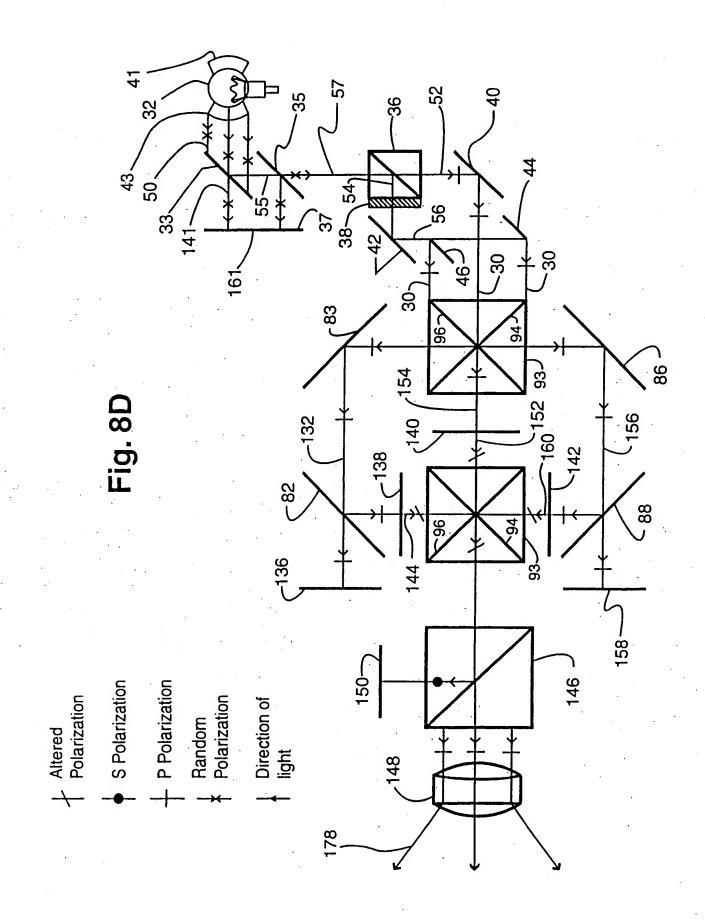


Fig. 8B





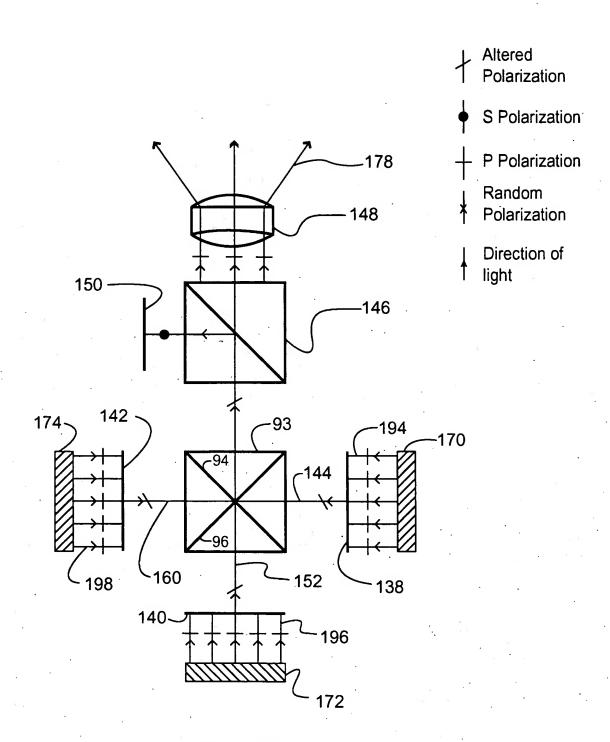


Fig. 8E

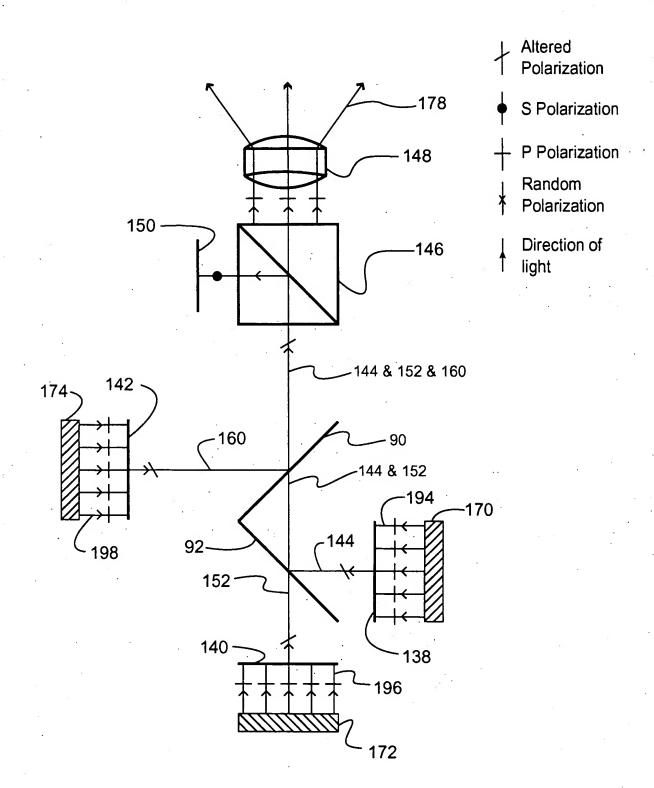
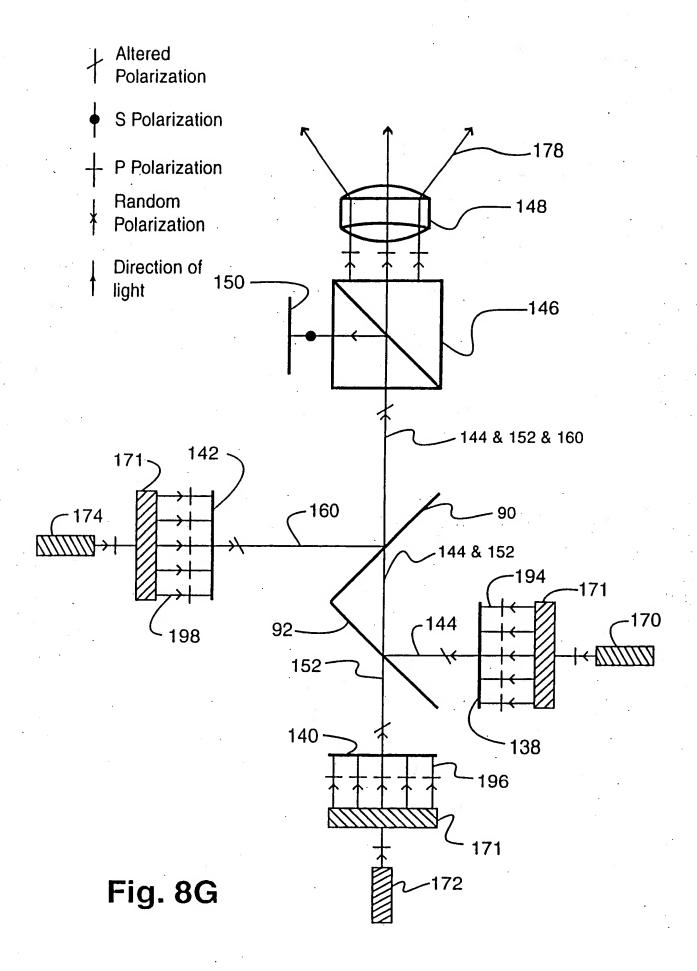


Fig. 8F



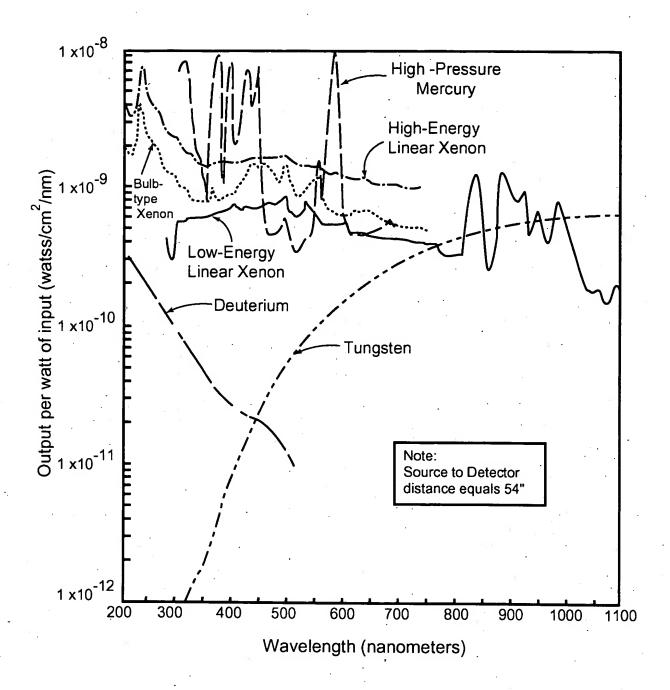


Fig. 9

| SOURCE                     | LUMENS             | APPARENT           | SOURCE        | AVERAGE                 |
|----------------------------|--------------------|--------------------|---------------|-------------------------|
|                            | TYPE / WATT (1 PW) |                    | SIZE OR       | LUMINANCE               |
| IIFE                       | / WALL (LEW)       | COLOR TEMP<br>(°K) | TYPE          | (cd/mm2)                |
| NATURAL (observed from ear | th)                |                    |               | •                       |
| Sun                        | ·                  | 5900K              |               | 1600                    |
| Moon                       |                    | <del></del>        |               | 0.0025                  |
| Clear Sky                  |                    | 12,000 to 25,000K  | . —           | 0.008                   |
| Overcast Sky               |                    | 6500K              | ·             | 0.002                   |
| •                          | . —                | 0300 <b>K</b>      | <del></del>   | 8x10 <sup>4</sup>       |
| Lightning Flash            |                    | . —                | ·             | 9710                    |
| COMBUSTION                 | •                  | γ                  |               |                         |
| Candle flame               | <del></del>        | . 2000K            | 5x5mm         | 0.01                    |
| Kerosene Flame             | _                  |                    | 8 <b>x8mm</b> | 0.012                   |
| Natural Gas Flame          |                    | . —                | 12x12mm       | 0.004                   |
| Acetylene Flame            | <del></del>        | <del></del>        | 4x4mm         | . 0.11                  |
| Photoflash Lamp            |                    | 3800K              | varies        | 160 to 400              |
| NUCLEAR                    | •                  |                    | 1             |                         |
| Atomic Fission Bomb        |                    |                    | 30 dia        | 2x10 <sup>6</sup>       |
|                            | <del></del>        | <del></del>        | 30 ma         | 2 or 3x10 <sup>-7</sup> |
| Self-Luminous Points       |                    |                    | . —           | 2 or 3110               |
| CARBON ARC                 | •                  |                    | •             |                         |
| Flame Flame                | 18                 | 3800K              | 5x5mm         | 180                     |
| High Intensity             | 22                 | 5500-6500K         | 8x8mm         | 500 to 1500             |
|                            |                    |                    | •             | •                       |
| ENCLOSED ARC               |                    |                    |               | •                       |
| Compact high Pressure      | •                  | 000076             | 0.05.00       |                         |
| Mercury (100W)             | 20                 | 8000K              | 0.25 x 0.2 mm | 1700                    |
| Mercury (200W)             | 50                 | 7000K              | 0.6x2.2mm     | 400                     |
| Mercury-Xenon (100         |                    | 6000K              | 1.5x4.2mm     | 350                     |
| Xenon(150W)                | 19                 | 6000K              | 0.5x1.9mm     | 180                     |
| Xenon(1600W)               | 37.5               | 6000K              | 1.4x4.0mm     | 800 ·                   |
| Xenon(20,000W)             | 57                 | 6000K              | 3x11mm        | 4800                    |
| Metal Halide               |                    |                    |               | •                       |
| HMI(1200W)                 | 92                 | 5600K              | 2.5x13mm      | 120                     |
| CSI (1000W)                | 80                 | 4200K              | 5x9mm         | 80                      |
| CID (1000W)                | 62                 | 5500K              | 5x9mm         | 65                      |
| MARC 300                   | 45                 | 5000K              | 1x3mm         | 400                     |
| Zirconium                  | 2.5                | 3200K              | 1.5mm dia     | 46                      |
| Argon                      | 17                 | 7000K              | 3x10mm        | 1400                    |
| High Intensity Discharge   | e (HID)            |                    |               |                         |
| Clear Mercury (400         | W) 52              | 6000K              | 20x68mm       | 1.5                     |
| Metal Halide (400W         | •                  | 4500K              | 20x40mm       | 4.2                     |
| High Pressure              | ,                  | ,                  |               | •••                     |
| Sodium (400W)              | 125                | 2100K              | 8.8x87mm      | 6.5                     |
| Low Pressure               |                    | 210011             | 0.02076060    | 0.0                     |
| Fluorescent (cool white)   |                    |                    |               |                         |
| 430 ma                     | . 80               | 4300K              | T12 Bulb      | 0.008                   |
| 800 ma                     | 82                 | 4300K              | T12 Bulb      | 0.011                   |
| 1500 ma                    | 70 .               | 4300K              | T12 Bulb      |                         |
| Sodium                     | 150                | 1700K              | 112 Date      | 0.017<br>.1             |
|                            | :                  |                    |               | ••                      |
| ELECTROLUMINESCENT         |                    |                    |               | ·                       |
| Green @ 60 Hertz Gree      | n —                |                    | <u> </u>      | 3x10 <sup>-5</sup>      |
| Green @ 400 Hertz Gre      | en —               | · —                |               | 7x10 <sup>-5</sup>      |
| INCANDESCENT               |                    |                    |               |                         |
| Carbon Filament            | 3 .                | 2000K              | C6 or C8      | 0.5                     |
| Tantalum filament          | 6                  | 2200K              | C6 or C8      | 0.7                     |
| Tungsten Filament          | v                  | 220012             | C0 01 C0      | U. 1                    |
| Vacuum Lamp                | 10                 | 16001/             | C6 am C0      |                         |
|                            | 10                 | 2600K              | C6 or C8      | 2.0                     |
| Gas Filled Lamps           | 20                 | 3000K              | CC6 or CC8    | 12                      |
| (includes tungsten         | 26                 | 3200K              | CC6 or CC8    | 24                      |
| halogen lamps)             | 33                 | 4300K              | CC6 or CC8    | 36                      |

Fig. 9A

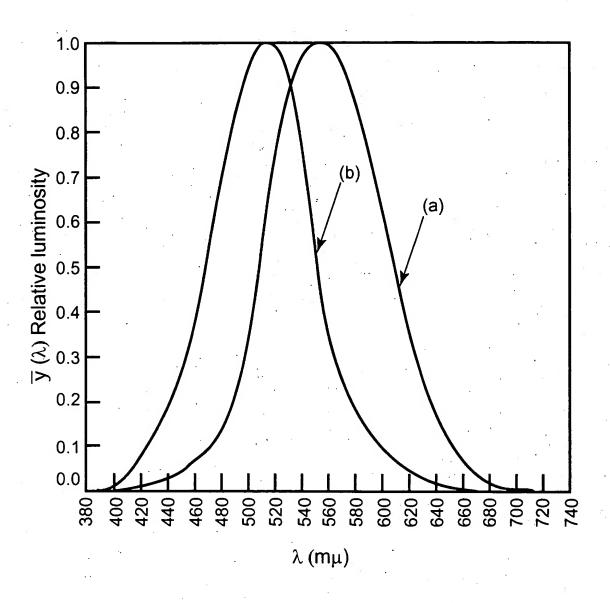


Fig. 10

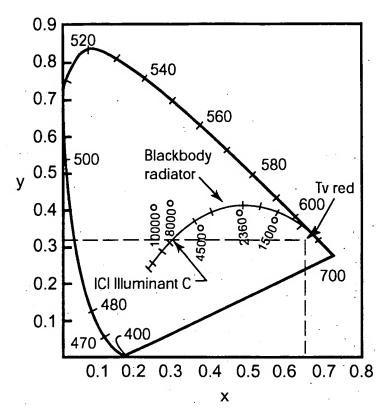


Fig. 10A

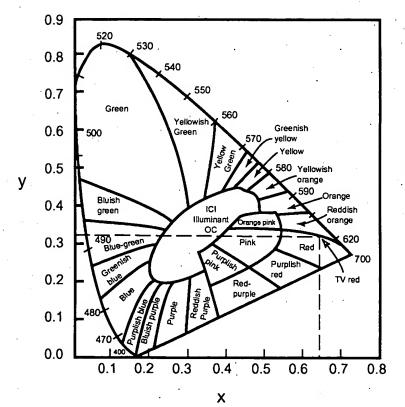


Fig. 10B

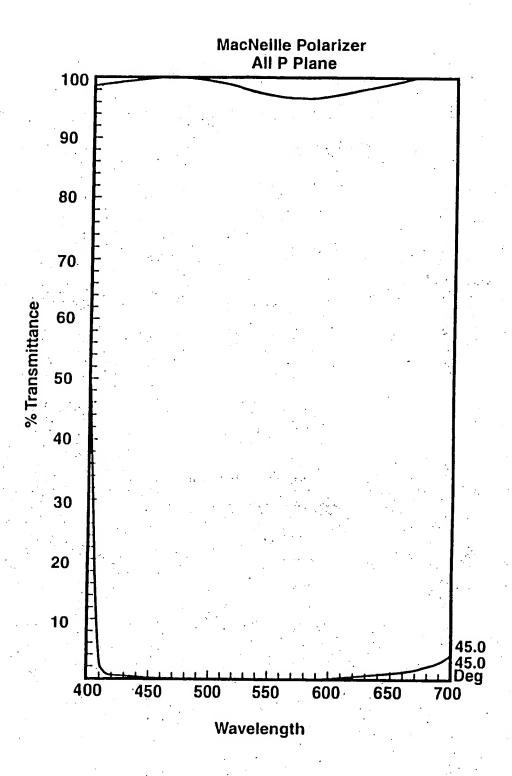


Fig. 11

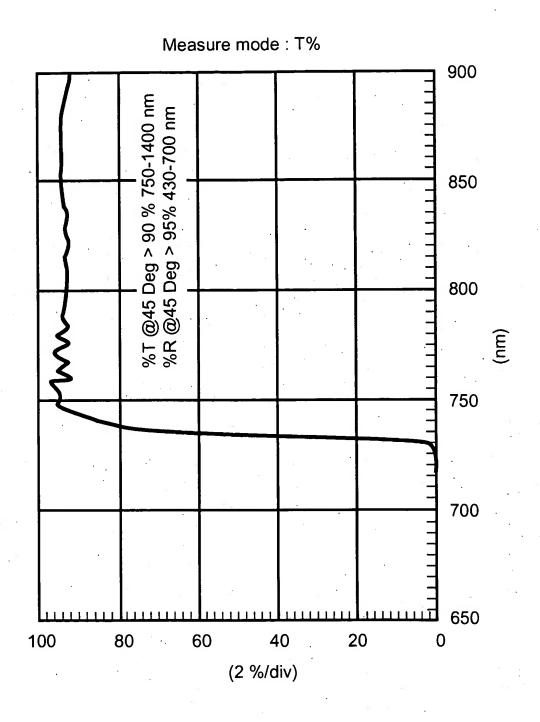


Fig. 12

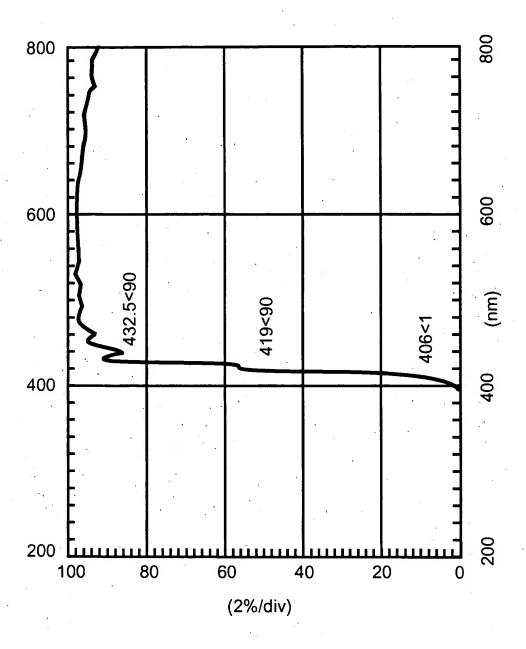


Fig. 13

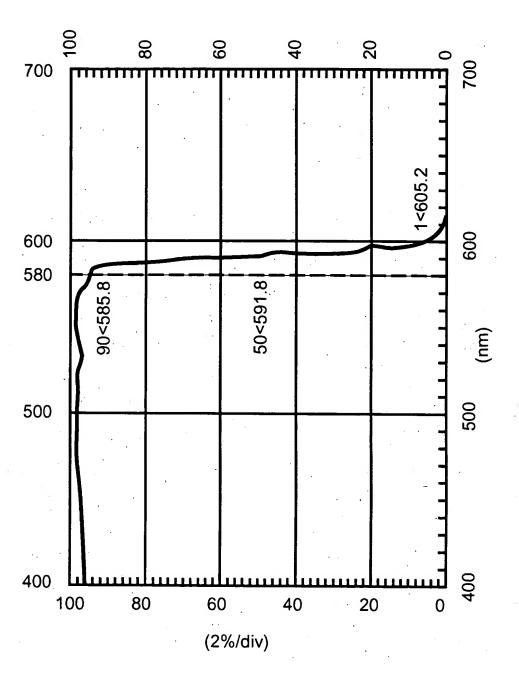


Fig. 14

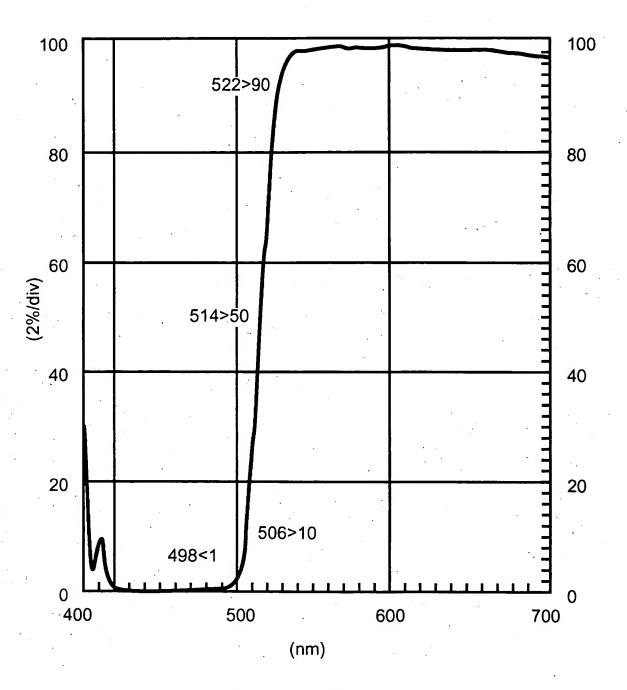


Fig. 15

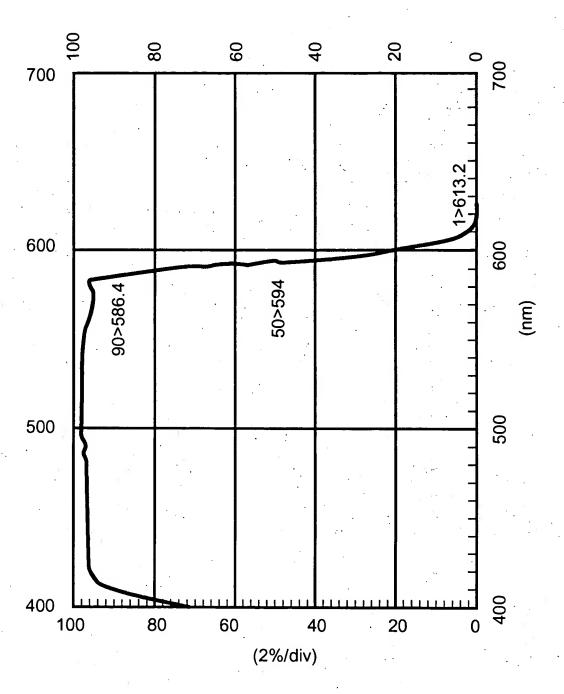


Fig. 16

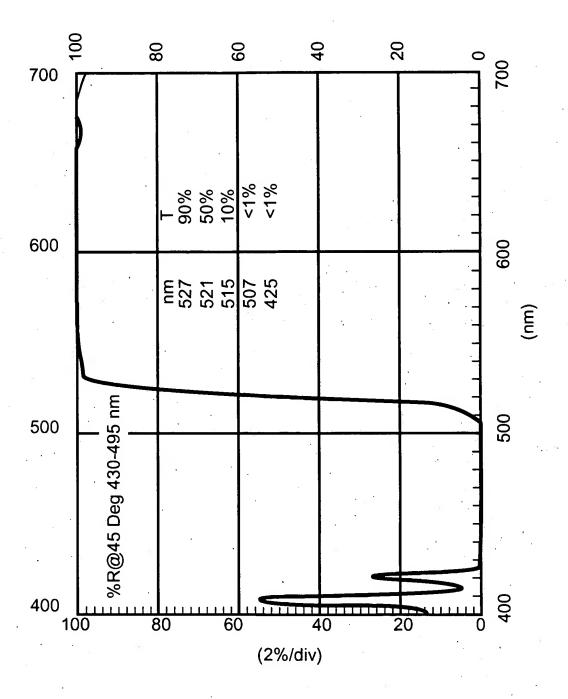


Fig. 17

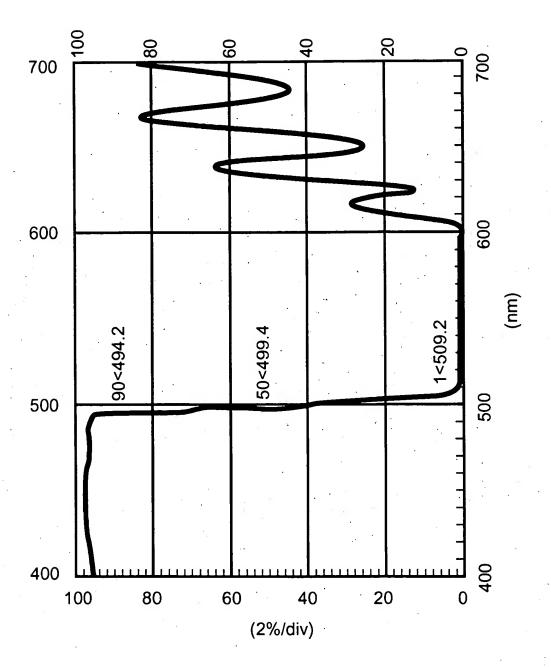


Fig. 18

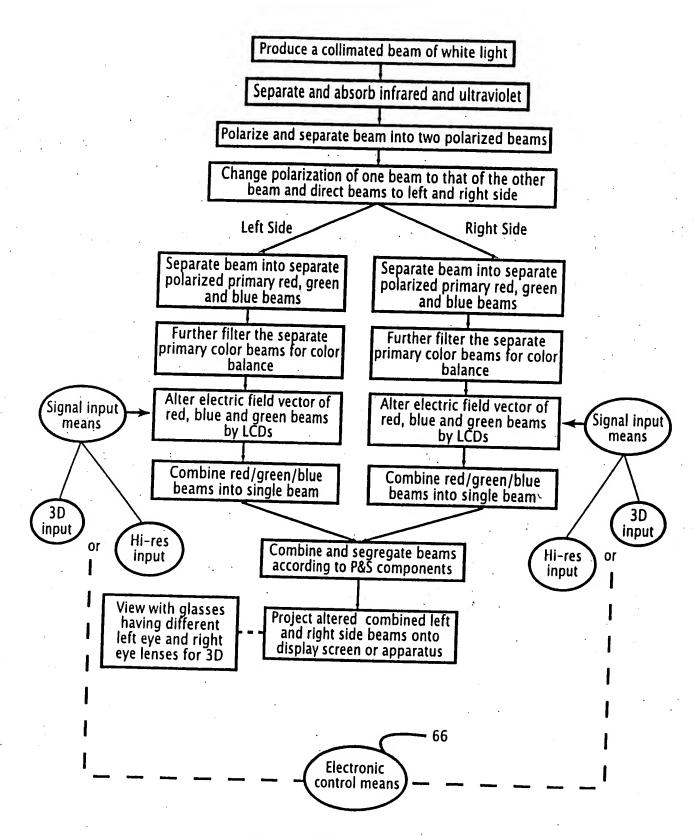


Fig. 19

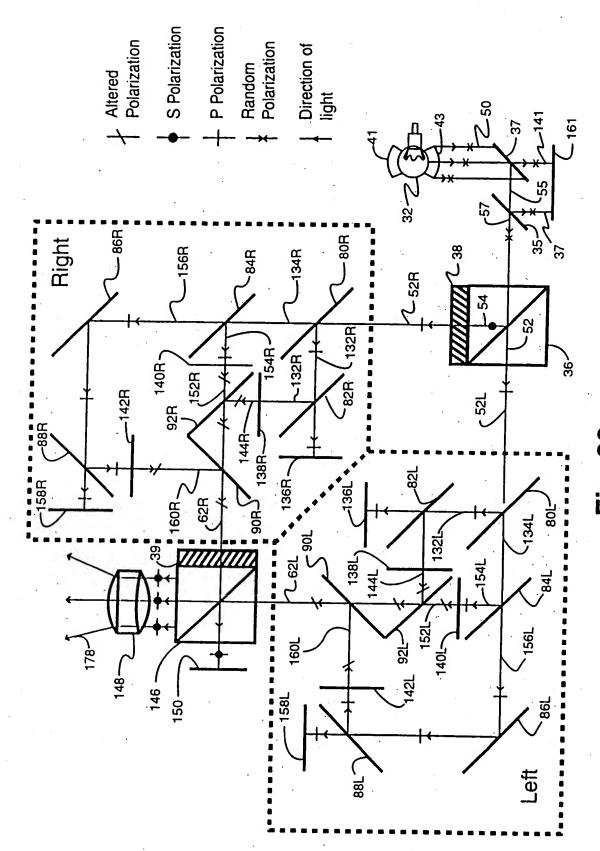
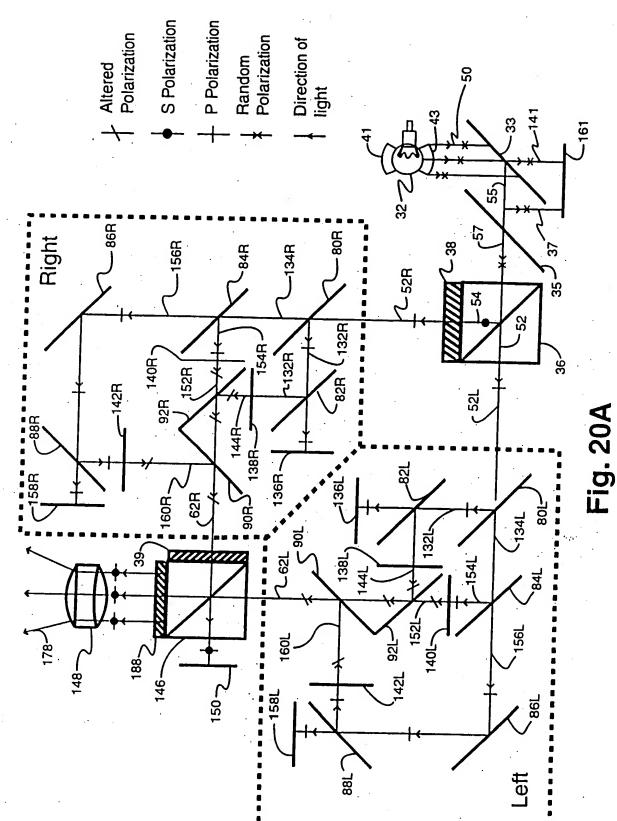
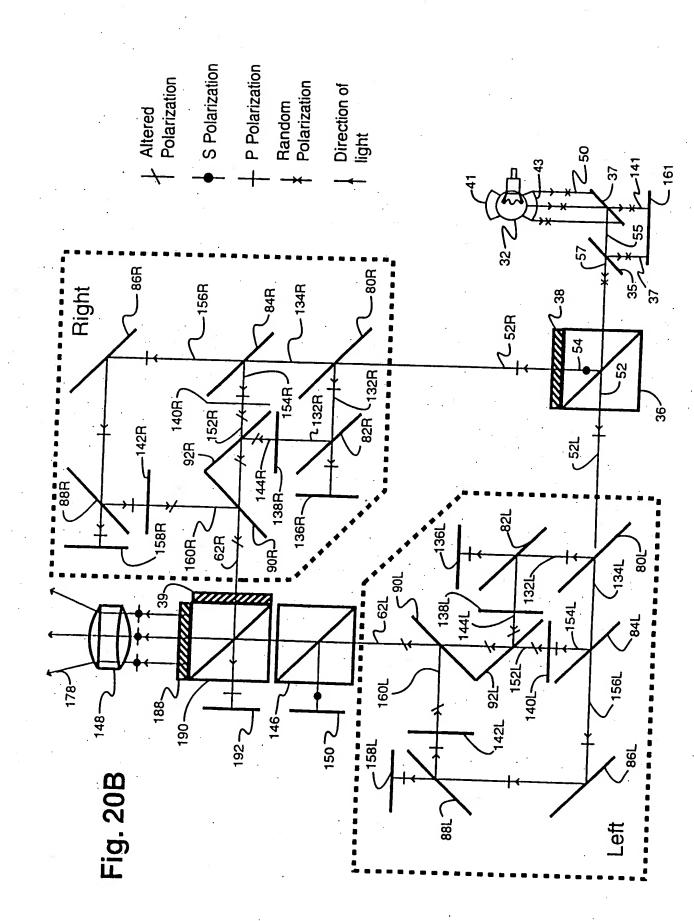
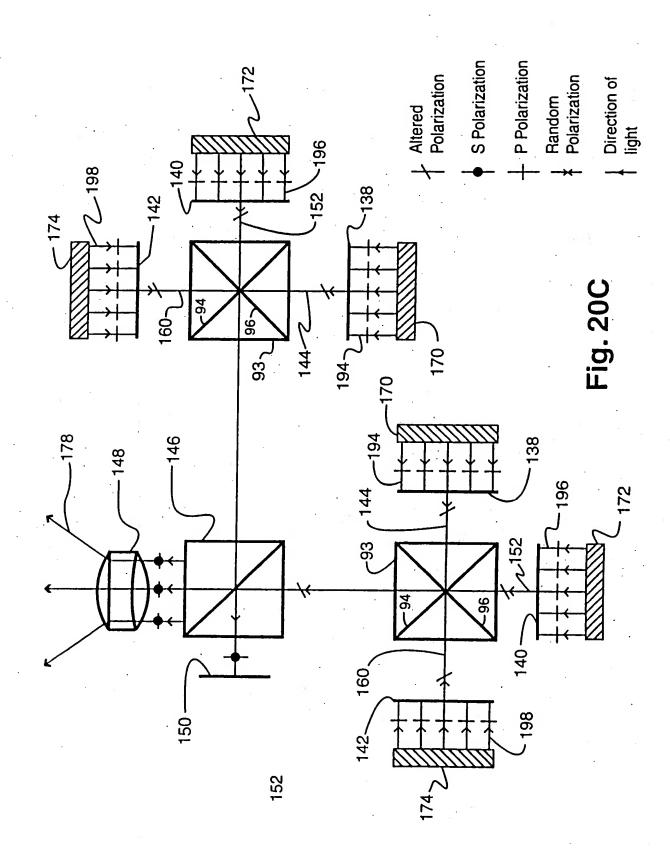
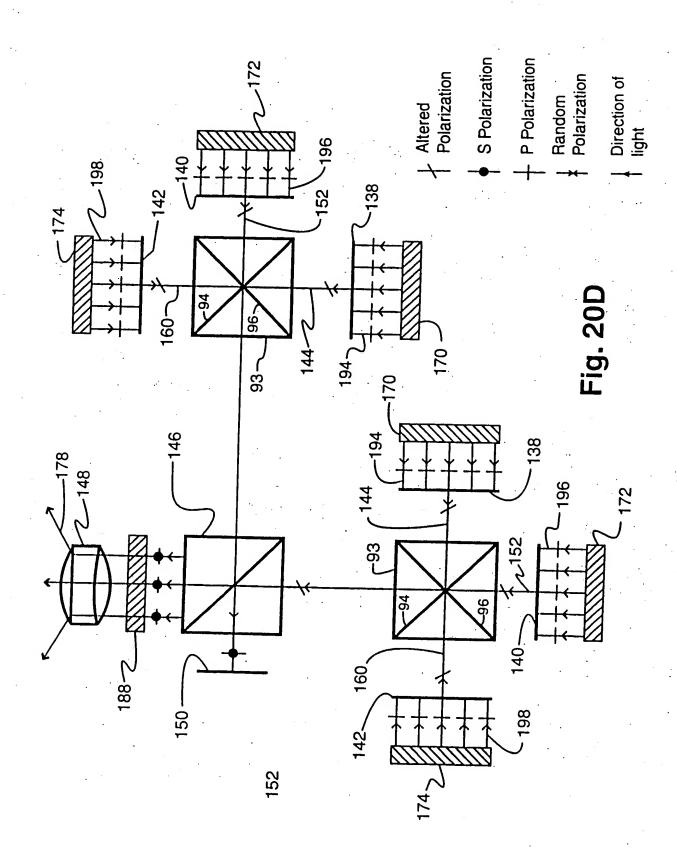


Fig. 20









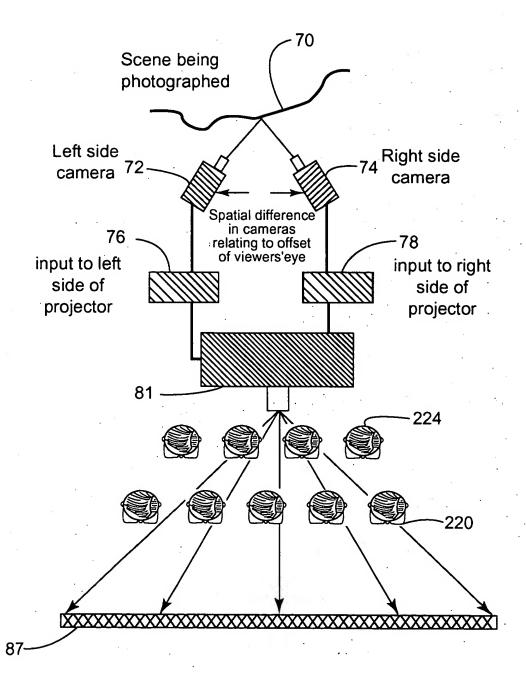


Fig. 21

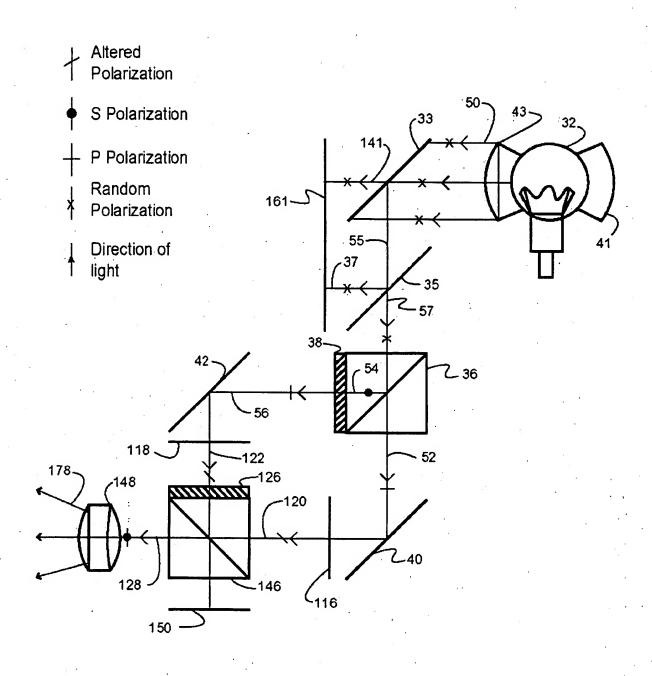


Fig. 22

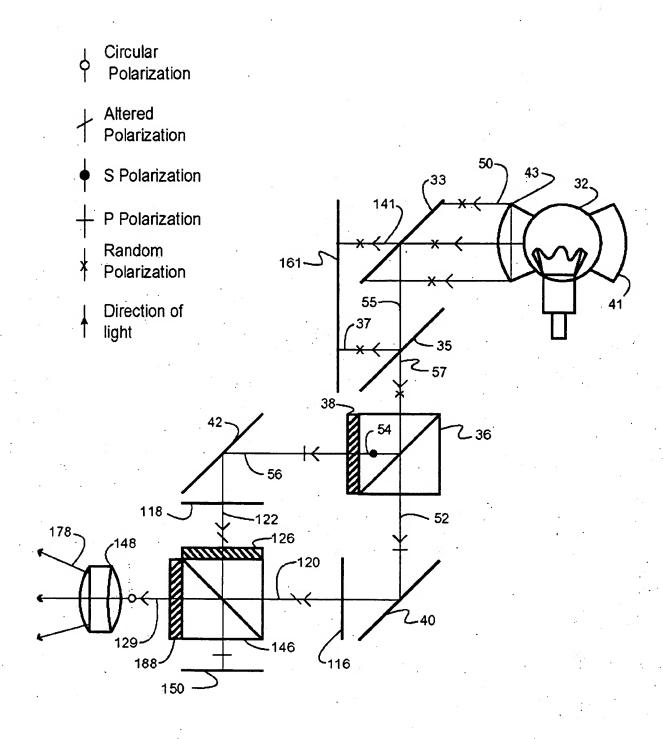


Fig. 22A

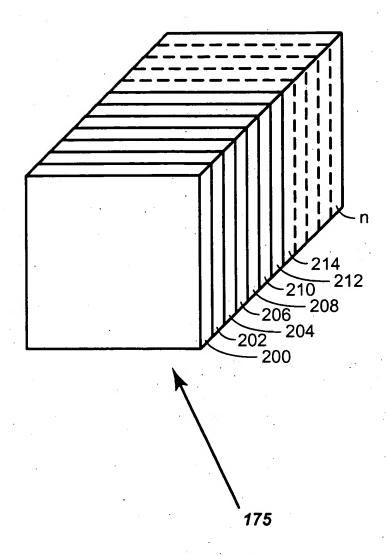


Fig. 23

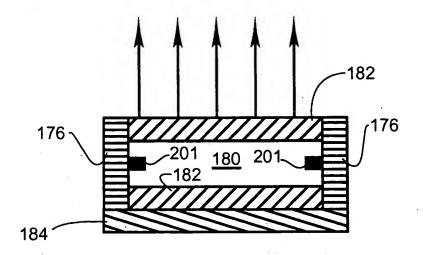
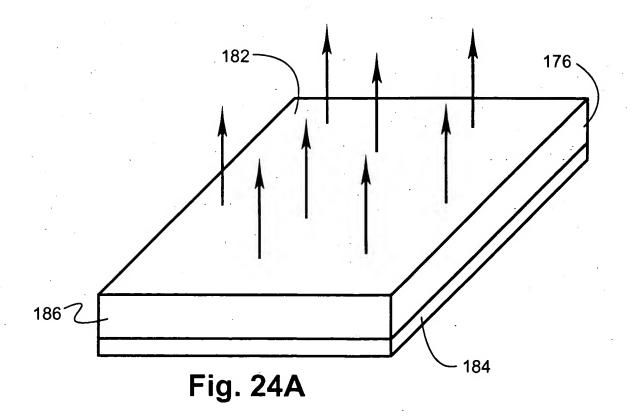


Fig. 24



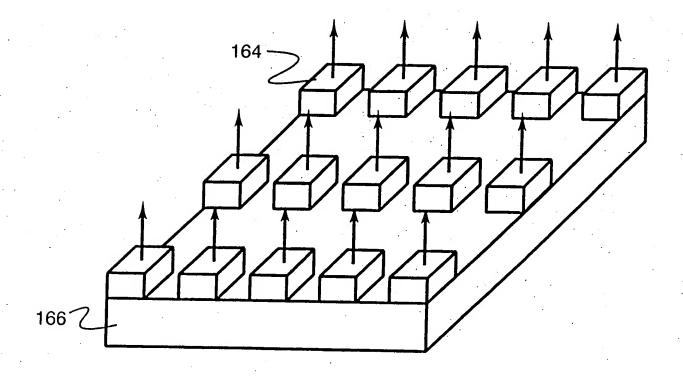


Fig. 25

| PART<br>NO. | FIG<br>NO. | TYPE OF<br>MIRROR | SYSTEM<br>USEAGE               | >NM<br>TRANS<br>-MISSION | <nm<br>TRANS<br/>-MISSION</nm<br> | >NM<br>REFLEC-<br>TION | <nm<br>REFLEC-<br/>TION</nm<br> |
|-------------|------------|-------------------|--------------------------------|--------------------------|-----------------------------------|------------------------|---------------------------------|
| 33          | 12         | CUTOFF            | IR FILTER                      | 700                      |                                   |                        | 700                             |
| 35          | -          | CUTOFF            | UV FILTER                      | 430                      |                                   | ×                      | 430                             |
| 40          |            | BROADBAND         | MAIN BEAM<br>REFLECTOR         |                          |                                   | 400                    |                                 |
| 42          |            | BROADBAND         | MAIN BEAM<br>REFLECTOR         |                          |                                   | 400                    |                                 |
| 44          |            | BROADBAND         | MAIN BEAM<br>REFLECTOR         |                          |                                   | 400                    |                                 |
| 46          |            | BROADBAND         | MAIN BEAM<br>REFLECTOR         |                          |                                   | 400                    |                                 |
| 80          | 14         | BANDPASS          | RED SPLITTER                   |                          | 585                               | 595                    | ·                               |
| 84          | 18         | BANDPASS          | GREEN<br>SPLITTER              |                          | 490                               | 500                    |                                 |
| 86          | 15         | CUTOFF            | BLUE<br>REFLECTOR              | 495                      |                                   | ·                      | 490                             |
| 82          | 14         | BANDPASS          | RED<br>REFLECTOR-<br>TUNER     |                          | 590                               | 605                    | :                               |
| 92          | 16         | BANDPASS          | RED-GREEN<br>COMBINER          |                          | 585                               | 615                    | •                               |
| 90          | 17         | CUTOFF            | RED<br>-GREEN/BLUE<br>COMBINER | 525                      | - 1                               |                        | 500                             |
| 88          | . 15       | CUTOFF            | BLUE<br>REFLECTOR<br>TUNER     | 490                      |                                   |                        | 485                             |

Fig. 26

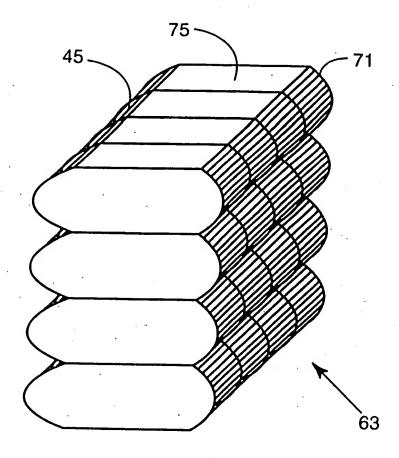


Fig. 27

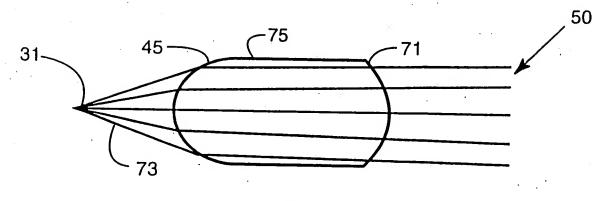


Fig. 27A

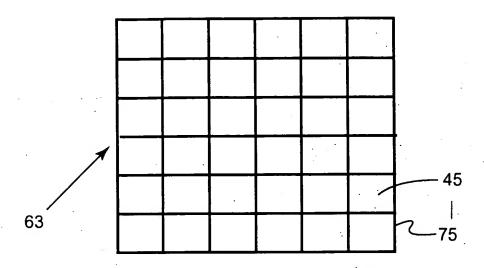


Fig. 27B

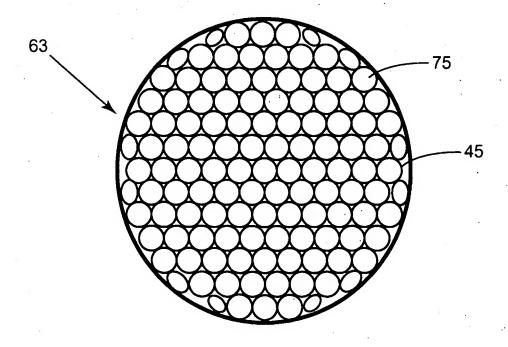


Fig. 27C

Fig. 28